

THE

October, 1956

CHEMIST

VOLUME XXXIII



NUMBER 10



Dr. George L. Parkhurst
Receives Western AIC Chapter Honor Scroll
(See Page 389)

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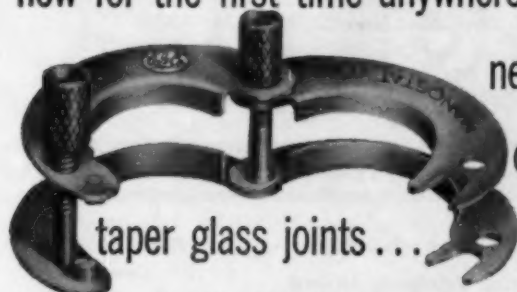
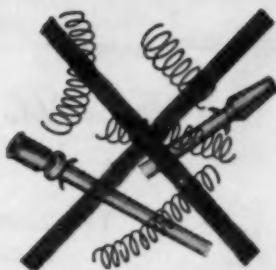
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New York Chapter Honor Scroll to Dr. C. N. Frey, F.A.I.C.

Communications: The Chemist's Viewpoint, Dr. Johan Bjorksten, F.A.I.C.

Coordinating Fundamental and Industrial Research, Dr. Charles N. Frey, F.A.I.C.

Award of Niagara Chapter Honor Scroll to Dr. C. C. Furnas.

Award of Chicago Chapter Honor Scroll to Dr. Lloyd A. Hall, F.A.I.C.

Investments in Tomorrow, Dr. Lloyd A. Hall.

The American Institute of Chemists is interested in your thoughts about professional status. See Dr. Dinsmore's article on page 399.

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TO COME IN NOVEMBER

When Dr. Charles N. Frey, F.A.I.C., received the Honor Scroll of the New York Chapter this summer, he accepted it with a treatise, both practical and philosophical, on "Coordinating Fundamental and Industrial Research." An envious listener commented, "Only a man who has taken time to stop and think could prepare a paper like that; the rest of us are too busy!" This noteworthy paper concludes with the golden words of Homer, as befits November:

"The race of man is as the race of leaves.

Of leaves, one generation by the wind is scattered on the earth . . ."

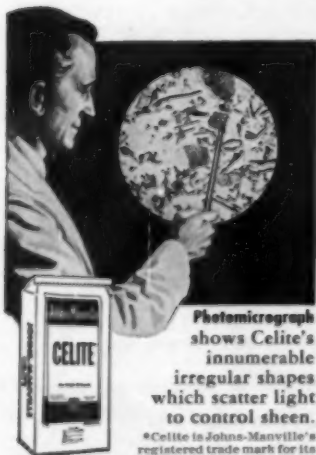
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EDITORIAL

Equal Tax Rights for the Self-Employed

Benjamin Sweedler, F.A.I.C.

Attorney at Law, 420 Lexington Ave., New York 17, N.Y.

THE Jenkins-Keogh Bill failed of passage at the last session of Congress. This bill permitted self-employed, including chemists, to deduct from gross income each year \$5,000, or ten per cent of earned income, whichever is less, but not more than a total of \$100,000, during a lifetime, which deducted amount was contributed to a restricted retirement fund or paid in as a premium to purchase a restricted retirement annuity contract. One who had reached age fifty-five before the effective date of the bill was allowed to deduct an additional amount to enable him to build up an adequate interest in the fund or obtain more than a token annuity. Upon reaching retirement age (65, or earlier in the case of the permanently disabled) the contributor gets back his contributions to the fund, which presum-

ably would be subject to a lower income tax because upon retirement the contributor would probably be in a lower tax bracket.

Such retirement benefits are presently enjoyed by most employed persons in the form of employer trust or insurance plans, contributions to which are deemed a business expense and constitute a tax deduction for the employer; nor does the employee have to pay any income tax on his employer's contribution until the benefits are actually paid out. One of the main purposes of the Jenkins-Keogh bill was to remove this inequality.

The 85th Congress convenes in January and a new bill will be introduced which will embody the equitable tax principles of the 1955 Jenkins-Keogh bill.

Special AIC Announcements

AIC Added to Perkin Award Committee

The Society of Chemical Industry, American Section, has notified John H. Nair, AIC president, that THE AMERICAN INSTITUTE OF CHEMISTS has been added to the Perkin Medal Committee, and will participate in

the selection of the 1958 medalist. Those who will represent the AIC on this Committee are designated as the president, president-elect, and the most recent past president, or specifically, John H. Nair, Dr. Henry B. Hass, and Dr. Ray P. Dinsmore.

Honorary Membership For Dr. Parks

The award of Honorary AIC Membership to Dr. W. George Parks, head of the Department of Chemistry, University of Rhode Island, Kingston, R. I., and director of the Gordon Research Conferences, was announced at the 1956 Annual AIC Meeting. The presentation of the Honorary Membership Scroll is being made at a meeting of the New England Chapter, at the MIT Faculty Club, Cambridge, Mass., on Oct. 31, 1956. Mr. Lawrence H. Flett will speak on Dr. Parks' career.

1957 Annual Meeting

The thirty-fourth Annual Meeting of THE AMERICAN INSTITUTE OF CHEMISTS will be held May 22-24, 1957, at the Sheraton-Mayflower Hotel, Akron, Ohio.

The general chairman for this meeting is Malvern J. Hiler, president, Commonwealth Engineering Co. of Ohio, 1771 Springfield St., Dayton, Ohio.

The Program Committee is composed of Dr. Henry B. Hass, AIC president-elect, and president of the Sugar Research Foundation, 52 Wall St., New York, N.Y., and Dr. J. D. D'Ianni, assistant to the vice president, Research & Development, Goodyear Tire & Rubber Co., Akron 16, Ohio.

Future Annual Meetings

The Thirty-fifth Annual Meeting of THE AMERICAN INSTITUTE OF CHEMISTS will be held April 10-11, 1958, in Los Angeles, Calif., with the Western AIC Chapter as host.

The Thirty-sixth Annual Meeting is scheduled for New York, N. Y., on May 14-15, 1959, with the New York AIC Chapter as host.

Student Medal Manuscript Award

Beginning with the student medalists chosen in the Spring of 1957, student medalists are eligible to compete in an essay contest on the subject of "Chemistry or Chemical Engineering as a Profession," or some subject closely allied to the objectives of the AIC, as announced. The winner will receive \$100.

Contest details will be furnished to each new student medalist. All participants in the contest will receive a two-year subscription to THE CHEMIST. The winning manuscript will be published in THE CHEMIST.

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What Management Expects of the Chemist

George L. Parkhurst

Vice President and Director, Standard Oil Company of California, 225 Bush St., San Francisco, Calif.

(Presented when the author received the Honor Scroll of the Western AIC Chapter, May 29, 1956, at Los Angeles, Calif.)

MANAGEMENT, first of all, expects professional competence. It also expects the qualifications it looks for in all employees: Integrity, loyalty, diligence, resourcefulness, reliability, and the ability to "get along" with one's fellow man.

Over and above this, however, management looks on the chemist as an actual or potential member of the management team. As such it expects that he will understand and contribute management's objectives, of which the key one is the making of profits.

Profit-making is no sordid motive. Profits are the measure of efficiency in supplying the needs or "wants" of the customer. That company makes the greatest profits which contributes most successfully, importantly, and efficiently to our national—or world—economy. By the same token, the individual who contributes most to a company or industry is the individual who contributes most to the making of profits.

Accordingly an industrial chemist or one desiring to enter the chemical industry or other process industry should learn, early in his career, to think in economic terms. Our colleges and universities should and do contribute to this process of economic

education, but all too often chemists and chemical engineers enter the process industries with no ability to make even the simplest economic analysis and, in fact, without an understanding of the importance of this field of activity.

"Economics," in terms of industry, according to my home-made definition, is "The science (or perhaps the art) of measuring the relative dollars-and-cents efficiencies of alternative courses of action."

Dollars are our only common denominator for all types of human effort, so that efficiency measured in dollars is the same as efficiency measured in terms of human effort.

Economics, in this sense, pervades every branch of the chemical and other process industries. Truly basic or fundamental research is a possible exception, but little of this is done by industry except through assistance to the colleges and universities.

All industrial research is, or should be, based on economics. Since industrial research has as its objective the advancement of an industrial enterprise, the goal is profits. Hence economic thinking cannot be applied too early in a research program. An industry research program is not a suc-

cess, if it does not lead to commercialization.

It is perhaps more obvious and better understood that such branches of industry as manufacturing and transportation are based on economics. At every turn there is a choice between available alternatives and the choice must, or should, be based on economics as I have defined that term.

Often such choices are exceedingly complex and the newer techniques of "operations research" can play a major role. However, every technical man and every manager in an enterprise should be skilled in economic reasoning and should constantly apply that skill.

More and more chemists are entering the sales branch of the chemical industry since professional skills are more and more needed. One of the skills needed in the case of a salesman and particularly in the case of a market development man or a sales manager is this same ability to think in economic terms or, in other words, to make intelligent choices on an economic basis. The problem of price versus volume is only one of the problems but it is often a highly complex one involving both technical and economic skills of a high order.

Top management has the job of making the overall decisions which involve research, manufacturing, transportation, marketing, and finance. In the top management field, economic reasoning is one of the two most important tools. (The other is

organization and personnel management techniques.) Management must decide what new or expanded enterprises it can and should undertake. In a thriving company, which has a successful research arm and which is making satisfactory profits, there are almost always more ways to use its money than there is money to use. The selection among the available alternatives is the key to continued success, i.e. to increasing profits.

To re-emphasize, the making of profits is synonymous with making a contribution to our industrial society. The two vary in direct ratio. Profits are the measure of industrial efficiency. Efficiency, based on the profit motive is the key to our prosperity.

Every chemist has a contribution to make and he can best make it by including in his arsenal of professional skills a skill in the use of economic reasoning.

Change of Position: For Shepherd Stigman, M.A.I.C., who has joined the public relations department of G. M. Basford Company, 60 E. 42nd St., New York 17, N.Y. He was formerly with Foster D. Snell, Inc., New York 11, N.Y.

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George Parkhurst—Chemist Executive

John Morrisroe, F.A.I.C.

President, Pilot Chemical Co., 11738 Sorenson Lane, Whittier, Calif.

(Presented when the Honor Scroll of the Western AIC Chapter was awarded to Mr. Parkhurst, May 29, 1956, in Los Angeles, Calif.)

THE American executive is one of the wonders of the modern age. He is capable of great things, hard working, resourceful, and above all reliable. To the rest of the world he is the symbol of American productive leadership. Moreover he is sociable and diplomatic. As a present magazine witticism has it, an executive is a man who talks to visitors so that the other employees can do their work. As all the office knows, the executive translates the visitors' information into memos and suggestions after the visitors (and the employees) have left. This is the essence of executive work—communication. The ability to get and receive information and knowledge is to be both a learner and a teacher. To discuss and confer about a host of subjects and with a variety of people demands that the person know the background and the related subjects. Since the executive is by name a doer, the knowledge must be real know-how and not mere hearsay. American industry spans a wide field and the American executive must know the picture as a whole, which requires that he be well informed about geography and resources, about ethics and taxes, about the motivation of people and the laws of things.

And so we see today a *novus homo* on the scene. Because he deals so much in materials, costs of upgrading materials, the usefulness of matter and energy, such a broad man must necessarily be a chemist. It is the use of natural law expressed in chemistry that is applied. The goals sought are not short-sighted ones, because the American business axiom is that any arrangement must be to everyone's benefit or it is not feasible. This principle and the yardstick of mutual profit account for the respect American industry has today.

The career of George L. Parkhurst began in Illinois in 1927, when he was employed by the Standard Oil Company of Indiana to do laboratory work. During these early years of employment he built on the foundation of chemical engineering work done for his degree at the Illinois Institute of Technology.

His first post-graduate work was at the University of Chicago in the Department of Chemistry, with sufficient points excluding the residence requirement for a master's or a doctor's degree.

Before completion of all this work and because of interest in the development of petroleum processes, he worked on patents as a chemical en-

gineer for Standard Oil Company of Indiana, and to know the patent domain more thoroughly, he took up the study of law at DePaul University. This finally resulted in the law degree and to further duties along the same line in handling patent development.

Feeling the need for a better acquaintance with the principles and practice of accounting, Mr. Parkhurst next took a year of study in that subject at Northwestern and Wharton as further post-graduate training.

During the years 1927 to 1941, he advanced through the Chemical Warfare Service Reserve to the position of Major.

Also over the same span of time, he served for a number of years in the Chicago Section of the American Chemical Society and was, for five years, editor of the *Chemical Bulletin*.

These various trainings in experimental work, patent law, engineering development, chemical warfare, and editorial work, brought a steadily growing recognition of his capabilities, so that it is not surprising that he was summoned to Washington in 1941 to act as assistant director of refining in the Petroleum Administration for War. To do this required a clearance out of the War Department into the Department of Interior. The major operation in the PAW was to get sufficient gasoline to supply the Air Force in all its

needs; which was well done and well ended. To illustrate, let me point out that the aviation gasoline plants were turned off stream for military purposes in the same twenty-four hours that the Japanese were signing a surrender on the Battleship Missouri.

In 1945, Mr. Parkhurst joined Oronite Chemical Company as vice president, making a move to California as a choice among ten or twelve other possibilities. He became president of Oronite Chemical Company in 1946 and chairman of the board in 1950. He was elected a vice president of Standard Oil of California in 1949 and subsequently became a member of the board of directors of both the Arabian American Oil Company and the Standard Oil Company of California. Among these directorships is that of California Research Corporation (where he was also chairman of the board) and director of the Trans-Arabian Pipe Line Company.

He is a member of the American Chemical Society; Society of Exploration Geophysicists; The Chemists' Clubs of New York and Chicago; the Society of Chemical Industry; the San Francisco Stock Exchange Club; the board of directors of the Manufacturing Chemists' Association; former vice president and present Fellow of the American Association for the Advancement of Science.

The chemical achievements that underlie these various capacities can

be illustrated by what has happened here on the Pacific Coast in petroleum chemicals during the last ten years. The foremost factor has been that the West has seen the actual origin and spread of aromatic chemicals based not on coal but on petroleum. These developments are not just passing achievements, but those that have brought a permanent change not only to the Pacific Coast but to the nation as a whole.

In the Eastern economy the aromatics come from the distillation of coal just as they did in England and Germany. Chemicals from petroleum in the East were based upon the gases, such as methane and ethylene, and with a concentration upon ethylene derivatives such as alcohol, glycol, acetaldehyde, etc.

In approaching the problem of how to make the petroleum resources of the West useful to the economy as a whole, Mr. Parkhurst worked upon the greater napthenicity of the California crude through various processes of conversion to aromatic chemicals. Some of these aromatics could not be as readily secured from coal as they could from petroleum and therefore offered a profitable ground for developments. The effect of these achievements can be seen in nearly all aspects of present day living, as can be shown by a few notable industrial changes. For instance, the fiber that we know today as Dacron has had various names such as Terylene in England, and originally Fiber-

V in the United States. This is a polyester of ethylene glycol and terephthalic acid. To make it economically there had to be a good source of the terephthalic acid and this was supplied from petroleum by means of the aromatic processes employed and developed here on the West Coast, so that today when you buy a suit of Dacron and wool, or socks made with Dacron, they represent a contribution from the petroleum industry through the achievement of chemists.

Similarly phthalic anhydride was made for the first time from orthoxylene from Western crude oil. This is the source of non-yellowing house paints, colored automobile enamel, and gleaming white refrigerator finishes. Recently isophthalic acid from metaxylene has become available also for the first time anywhere and from Western sources.

Another industry converted by such achievement was the soap industry which has gone these past ten years over to a synthetic detergent base made from alkyl aromatics. This conversion has been so complete that in the grocery store field, 95 per cent or more of the packaged products in the United States are synthetic detergents and 90 per cent of the alkyl aromatics come from Western production.

These large scale changes in our standard of living represent a new kind of contribution by chemists led by the chemist executive, who in these

ways attempt, by the better use of the raw materials God has given us, to serve each member of the community in a direct fashion. Certainly the chemist executive is the humble servant of us all and we are here to

praise George L. Parkhurst as it was written long ago: "He that exalteth himself shall be humbled, but he that humbleth himself shall be exalted, for the greatest among you shall be thy servant."

George Parkhurst—the Man

Dr. Frederick G. Sawyer, F.A.I.C.

The Ralph M. Parsons Co., 617 S. Olive St., Los Angeles, Calif.

(Presented when Mr. Parkhurst received the Honor Scroll of the Western AIC Chapter, May 29, 1956, at The University Club, Los Angeles, Calif.)

VERY often it is just as revealing to get the measure of a man from his informal patterns of daily living as it is to judge him from his life behind a desk. All I have to do is to give a few anecdotes to show that George Parkhurst is noted for his warm human qualities, his skill at combining hard work with constantly renewable energy, his soft-spoken administrative wizardry, his unrelenting drive combined with a gentle disposition . . . Considering the fact that he spends a major share of his time commuting between San Francisco and the rest of the world, there is good reason to suggest that a pertinent Standard Oil research project be devoted to an economical and practical way to attach helicopter blades to the Parkhurst vice-presidential desk, powered with Standard gasoline! . . .

Appropriately, in searching for pertinent anecdotes about him, I constantly ran into airplane stories. Each

has a moral. Each sheds light on his character.

On his first trip to Europe, George Parkhurst arranged his travel schedule so that he flew to London; participated in a meeting, and returned to New York, having been absent from his office for a total of four days. This is an example of his philosophy of getting things done—now. As some master salesman expressed it, "Get in. Get it. Get out."

George Parkhurst and Jerry Hughes (present president of Oronite Chemical Company) made a trip together on a one-stop transcontinental flight. In coming into Chicago, the pilot made a bad approach run and broke through the ceiling pretty close to the ground and definitely out of line with the runway. He had to pull out and prepare to make another approach. About this time, Jerry Hughes opened his eyes, looked out the window, saw a couple of neon signs go by somewhat above

the elevation of the plane. He grabbed George Parkhurst's shoulder, shook him awake, and said, "George. Wake up. We're going to crash!" George aroused himself sufficiently to note the passage of a few factory chimneys past the wingtip and commented calmly, "I long ago came to the conclusion that the man up front flies these things and there's very little I can do about how he does it." With this comment George turned over on his other ear and went back to sleep.

A few years ago a member of the West Coast chemical fraternity boarded a midnight plane in New York feeling none the worse for wear after a merry evening. He had no thought other than settling down for a comfortable sleep all the way back to San Francisco. He was seated next to his acquaintance, George Parkhurst, who was busy reading a ponderous chemistry text. When the plane landed in Chicago, George was still reading the book. As far as anyone knows, he was still engrossed in the book when the plane arrived in San Francisco. Moral: he is never unprepared.

On another occasion, a ten-hour business discussion tempered with potable conviviality wound up at 2:30 in the morning. A member of that meeting showed up in the Parkhurst office at 8:15 the next morning feeling like a self-righteous martyr about his early return to business. As he entered the office, Mr. Parkhurst's secretary was busily typing a 14-page

report which was prepared by some miracle in the few intervening hours. When queried about such work after the previous day's long session, George stated that he never allowed a day's work to hang over. He always finished each day's work, regardless of the time or circumstances.

I even have a story about his prowess in surface transportation. He is famous for his considerateness. In his early days when he lived in Gary, Indiana, and frequently took the last bus home from Chicago or Whiting, he has been known to drive the bus so that the regular driver could rest . . .

George Parkhurst is a devoted family man, although there are intimates who feel that his love of fuchsias runs a close second. An orderly mind is another characteristic of him. In keeping with this, all members of his family follow an alliterative nomenclature. His charming wife's name is Peg; the family calls him Poppa; the dog's name is Pepper; and the three sons are named Peter, Paul, and Perry. Regarding the last three members of the family, early morning risers in certain areas of Piedmont have observed a vice president and director of Standard Oil tooling along the streets in a blue Buick, throwing the Sunday *Oakland Tribune* with unerring accuracy into flower pots or other attractive targets pointed out to him by his assistant, whose name is either Peter, Paul, or Perry, depend-



Mr. Parkhurst accepts the Honor Scroll from Thomas J. Rollins, Chairman of the Western Chapter.

ing on what year the observation was made.

Incidentally, during part of this same period, George Parkhurst was a half-time consultant in Washington, spending alternate weeks in Washington and San Francisco, and also each weekend at home. He took quite a ribbing about having to return to the West Coast to deliver his newspapers.

We all have some bad habits. George is an inveterate pipe smoker and an inadvertent experimenter. He has found that pipe embers absentmindedly spilled are definitely incompatible with the new du Pont poly-

ester fiber Dacron. I am told that his first Dacron suit turned into a reasonable facsimile of a lace curtain by this experimental procedure on the second or third wearing.

As to determination and strength of character, George has for the past thirty years stopped smoking during the month of February just to prove that he could do it!

What better strength of character could I exhibit than to close my inadequate introduction with the sincere regret that I am unable to do sufficient honor to our distinguished fellow chemist, Mr. George Parkhurst.

Presentation of the Honor Scroll

THE Honor Scroll of the Western Chapter of THE AMERICAN INSTITUTE OF CHEMISTS was presented to George L. Parkhurst, vice president and director of Standard Oil Company of California, on May 29, 1956, at the University Club, Los Angeles, California.

Mr. Parkhurst was introduced as "the Executive" by John Morrisroe, president of Pilot Chemical Co., Whittier, California, and as "the Man", by Dr. Frederick G. Sawyer, manager of public relations, of The Ralph M. Parsons Co., Los Angeles. Thomas J. Rollins, director of Keldon Research Corp., Huntington Park, and chairman of the Western Chapter, presented the Honor Scroll. Mr. Parkhurst responded with an address on "What Management Expects of The Chemist." (For these papers see preceding pages of THE CHEMIST.)

Following Mr. Parkhurst's address, medals were presented to outstanding senior chemistry students within colleges and universities in the Southern California area, by Dr. Harry L. Fisher, Hon. AIC. The list of students who received medals from the Western Chapter follows: (Those in areas outside of Southern California received their medals in their colleges or universities at special ceremonies.)

Howard C. Berg, California Institute of Technology

Robert H. Blechen, Whittier College

John Chacko, University of Redlands

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(Presented at a meeting of the Ohio AIC Chapter, April 20, 1956, in Columbus, Ohio.)

ONE cannot but be impressed by the numbers of words which are being spoken and written about science teaching in the elementary schools, the shortage, present and potential, of engineers and scientists, the rapid gains in quality and quantity of Soviet scientists and engineers, and the effect on our relative powers of defense and industrial production. To this voluminous discussion we must add the related material about unionization of technical people, their economic and professional status in industry and the degree of professional recognition accorded them by the public.

Former president of Harvard and now Ambassador Conant, and Dr. James Killian, president of M.I.T., and a few others have emphasized the need for quality as against quantity as a requirement for our scientists.

As far as military service of scientific people is concerned, there have been some improvements in the selective service law which, however, appears destined to perpetual interpretation and administration by General Hershey. There is an urgent need for a selective service law which leaves to no one discretion about wasting one of our most valuable re-

Think over the social problem of professional scientists as it is here outlined to you and try to work out a practical solution. Talk to your friends about it; write about it, if you can and will, and send suggestions to the author or to any member of the local or national AIC Council.

sources. As long as there is a choice, many scientists will volunteer for military service to escape what they feel is a social stigma.

So, it is evident, that the scientist (in which term I include the engineer) is the subject of controversial discussion involving problems, for which it is vital to find correct solutions. Under such conditions, scientists cannot justify an attitude of indifference. It is important that we ask ourselves where our duty lies and what the facts may be.

This statement is tantamount to saying that we should rise to full professional stature by accepting the responsibilities that go with our special position in society. Always important, now, when there is at stake the very means by which we may perform our scientific duties, contribute to the defense of our homes, and play

our proper part in the advancement of our social system, our professional behavior becomes a vital thing. It is not a question alone of our individual preferences. It is in an important degree a question of declaring before the world the professional standards to which we adhere and require of all others who wish to be recognized as members of our profession.

Because definition of aims and purposes is important to their effective realization, I have considered this to be a first essential in attempting any harmonious accord between members of the same profession and between different professional groups. A year ago I recited in Akron the definition of a professional person, built up from many sources by a committee of the Council of the American Institute of Chemical Engineers. It has subsequently been published by *THE CHEMIST* last August, and with little change by *Chemical Engineering Progress* in November. It is:

"A professional person is an individual who, with adequate training, experience, intellectual capacity, and moral integrity, effectively devotes his skills and knowledge to the service of society and his profession in whatever assignment he finds himself, being fully sensible of the personal responsibility and trusteeship conferred by his special training."

No doubt many will think this definition too idealistic because of its emphasis on service, personal integrity and responsibility. Nevertheless, some definition should be adopted and given broad support by those who are striving for real professional stature. The

set of standards inherent in the definition quoted needs no apology, but it does require some personal discipline to carry through and some means of distinguishing its adherents from those who are satisfied with lower standards. There is already some consideration of a special class of members in both the AIC and the AIChE, an important requirement for which would be evidence of professional stature as shown by the record of the candidate.

In this I hope the AIC will play a leading part. With objectives such as ours we might well stipulate that all of our fellows must conform to such professional standards, the only other classification being associate members, who have not yet had time to develop the full requirements.

Lest these seem to you to be impractical objectives, consider the weight of a consolidated group of unquestioned professional stature upon some of our social problems.

It has already been mentioned that our training of future scientists is inadequate in both the numbers and quality of the students. We are in an excellent position to promote coordination of effort which is being exerted to stimulate interest in studying science in the high schools through the influence of better science teachers and the dissemination of better information with regard to the future importance of science.

We can effectively add our weight to the pressure for adequate legisla-

PROFESSIONAL RECOGNITION

tion on scientific reserves. At the same time we can help to educate our own profession and the public with regard to the necessity of using scientists to their full value either in civilian or in military operations.

The question of job definition in industry is important to scientific morale and to recognition by employers, as well as public prestige. The hodge-podge of titles given to scientific jobs is confusing to everyone concerned. If an individual is a chemist working at a professional chemist's job, he should have the word "chemist" somewhere in his job title. Likewise, with other scientific professions. As it is, about the only people sure of being called "chemists" are the analytical control variety, while, too often, an employee is only listed as an "engineer" if he is in the power-plant or locomotive category.

Much education is needed almost everywhere to alert the people to the coming importance of the use of electronic computers and coordinated industrial activity from the sales front back to the raw materials supply by means of automation. Analysis of the possibilities, solution of the problems posed, and the control of equipment will fall upon scientists, mathematicians, and engineers. Widespread application of these principles may be our national salvation. It is certainly one of our professional responsibilities to reveal the facts and to indicate their implications.

The increasing complexity of eco-

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nomic affairs and the plainly apparent advantages in simplification by the use of electronic controls and computers re-emphasizes the close tie-in of scientists and engineers with management functions. This should be a sufficient reason for preservation of the integrity of professional people and their separation by title and treatment—from non-professional and sub-professional people.

Never before, in our lifetime at least, has there been so great a need for the kind of social guidance which can be supplied only by the professional scientist. As already indicated, this need reaches into our national defense, our industrial management and our decisions with respect to collective bargaining. These are but a few of the many problems which call for objective considerations, broad experience, and the true professional desire to serve society. There is, however, a negative attitude maintained by many. These scientists fear inability to accomplish the desired results because the public does not accord

them the respect and prestige which are given to the older "learned" professions. It is felt that this public recognition will never be received because the scientists' services are not sufficiently personal and in too many cases their identity is lost in the impersonal body of the large industrial organization.

Such fears are perhaps justified as long as there is no concerted action among professional scientists to define their aims, identify themselves, and evolve programs for the solution of important social problems falling within their professional purview. Those of us who feel that professional recognition and united professional action of the kind we have discussed are both possible and a social obligation, must promote our views and try to reach a basis for agreement among all those who feel the professional obligation even if they are doubtful about the means of accomplishment.

To the best of my knowledge the early forerunners of the scientific societies, which now consist of those following the practice of a particular science such as chemistry, were the philosophical societies and the academies of science. Likewise, the engineering profession was originally military engineering and the first designation of "civil engineering" embraced all forms of engineering then utilized in nonmilitary pursuits. As the "civil engineers" began to separate

into specialized branches, the associations of engineers did likewise.

For the purposes of specialized interest in new discoveries and practices, in publication and in group discussion, the subdivided professional groups have served an important purpose. Even these, however, are now growing so large that further subdivisions are appearing, although infrequently as separate entities.

The obverse aspect of this subdivision of the professions is the difficulty in obtaining concerted action or general agreement as to fundamental purposes. This is particularly true with respect to professional ideals. Large societies, with many thousands of members usually selected with no very rigid qualification requirements, contain all classes from highly professional to subprofessional or nonprofessional. These societies are usually managed and directed by people with high professional ideals, but they cannot be considered as representing professionally the rank and file of their membership. It follows also that membership in these societies does not and cannot, in itself, convey any true indication of professional stature. I say this while being well aware that there are some exceptions and that there is a strong effort in many places to identify and activate a true professional nucleus.

The engineering profession is making an effort to integrate its professional efforts in such organizations as the Engineers Joint Council and the

PROFESSIONAL RECOGNITION

Committee for Professional Development. Their problems are extremely difficult of solution, however, for the reasons already mentioned.

Our problem in the AIC is much simpler. We presumably are organized to advance our members professionally and to advance the profession itself. We need only the clarity of vision to define our ideas, the unselfish spirit to gain general agreement among our members, and the crusading spirit to carry on to larger spheres of activity. If we are so small as to obviate our being the dominating force, we still have the very interesting prospect of being so effective that we may act as the catalyst which makes the reaction go to completion.

Our membership committee chairman this year has been amazed and chagrined to find how few of the chemists approached have heard of the AIC, to say nothing of being familiar with its purposes. I hope that most of my audience is aware of the unique character of our organization and is proud of their association with it. I wish you would make it a point to talk about it to fellow chemists who have similar ideals but who are not aware of the objectives of our society. If your conversation accomplishes nothing more, it will help to make our organization better known and thus more effective in its efforts.

Think over the social problem of professional scientists as I have outlined it to you and try to work out a practical solution. Talk to your

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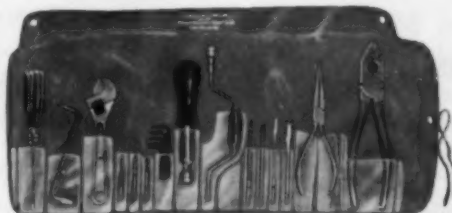
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friends about it; write about it, if you can and will; and send suggestions to many or any of the local or national council. We (the AIC) must be active in these matters or we have no excuse for existence. Let us prove that we are professional people, that we mean what we say when we talk about professional attitude and public recognition. Remember what I say about the catalytic effect. The reacting elements are present, the temperature is right. A pinch of enthusiasm, a dash of unselfish objectives, a little agitation, and the idea will go with a bang.

Speaker: At the "Uranium and Atomic Industry" conference, held in Denver, Colo. June 25-26th, Howard E. Kremers, F.A.I.C., technical assistant to the president of Lindsay Chemicals Co., of West Chicago, Ill., who talked on the "Demand for Thorium."

Appointed: Dr. Robert P. Parker, F.A.I.C., as assistant general manager of the American Cyanamid Company, New York 20, N.Y. He joined Cyanamid in 1933.

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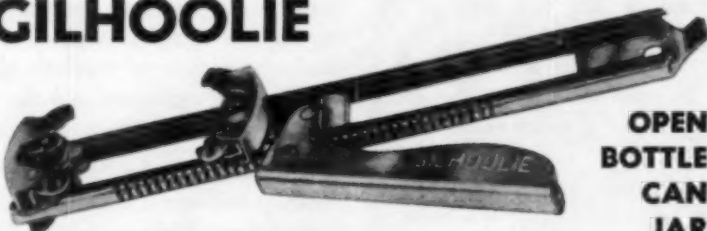
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Communications

How to Improve Professional Status

To the Editor:

In his address, "The Future of the AIC" (*THE CHEMIST*, July, 1956), Dr. Dinsmore pointed out a number of problems which, I am sure, have puzzled many chemists for a long time. Perhaps the most important of these relate to the professional status of the chemist and to the recognition of that status by the community. Perhaps, also, a consideration of the circumstances which obtain in other recognized professions may suggest answers to the questions as they affect chemists.

Physicians, dentists, lawyers, pharmacists, to cite but a few, all receive *professional* degrees on completion of their course of studies, such degrees being in addition to any academic degrees for which they may be eligible. These professional degrees describe, and in a sense, define the particular profession, as doctor of medicine, doctor of dental surgery, bachelor of laws, graduate in pharmacy; and such degrees are readily understood by the public.

The chemist, on the other hand, on completing his course of studies, receives, not a professional, but an *academic* degree, bachelor of science, in some instances qualified by the words "in chemistry." Further study will lead to the master of science degree, or to the doctor of philosophy degree, both academic degrees which do not necessarily indicate or define any professional status in the minds of the lay public.

Furthermore, members of the professions cited above, as well as of many others, must pass qualifying tests and obtain licenses or certificates under the auspices of the state government, before they can enter into the active practice of their professions. With a clearly defined degree and title, and with government sanction, these professionals immediately and automatically acquire a recognized standing in the community of their choice.

The chemist has no such government sanction or recognition. In fact, not so long ago in New York, a chemist operating his own laboratory was denied the right to claim professional status in con-

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nection with a tax return. Fortunately the chemist was able to carry the matter through extended litigation, and was finally upheld in the courts.

It would be illegal for a chemist to engage in activities which impinge, even remotely, upon the practice of medicine or pharmacy; but it is perfectly legal for a physician or pharmacist, or, for that matter, anyone, professionally trained or not, to engage in chemical practice. And anyone may call himself a chemist.

Although there has been an improvement in the economic status of the chemist because of an increased demand for his services, there has been no noticeable change in his professional status. With the probably continuing need for chemists, and the probable continuing shortage of properly trained personnel in chemistry, it would seem that now is the opportune time to take action regarding the professional status of the chemist. Public and official recognition at this time should provide a strong incentive for a greater number of students to make chemistry their profession. Among the steps which should be most helpful in this connection are:

1. Granting of professional degrees in chemistry, such as bachelor of chemistry, master of chemistry, doctor of chemistry; such degrees to be in addition to the regular academic degrees for which the student may qualify.

2. Providing legal recognition of the professional status of the chemist through certification by an appropriate state government agency.

THE AMERICAN INSTITUTE OF CHEMISTS, dedicated to improving the status of the

chemist, is the logical organization to undertake action along the lines indicated. No doubt, consideration has already been given to similar suggestions. Real accomplishment in this direction would go a long way toward realization of "The Ideal of Service" envisaged by Dr. Dinsmore.

—William E. Austin, F.A.I.C., F.A.A.S.

P.S. After completing the above letter, I received the August issue of *THE CHEMIST*, and read the remarks of Mr. Harold A. Levey on receiving the Honor Scroll. Some of my ideas seem to echo the thoughts expressed by Mr. Levey. This is simply an indication of the widespread recognition of the problem of the professional status of the chemist, and the pressing need for positive action to bring about improvement of that status.

—W.E.A.

A Chemist Considers Extra-sensory Perception

To the Editor:

The public is curious when it reads about extra-sensory perception and the arguments for and against statistical methods. As the scientist is now the source of wisdom, and the public may appeal to him, it behooves him to give a rational answer satisfying to the laity and at the same time stimulating research, lest the whole matter be considered the product of charlatans. I have evolved such an answer.

In 1876, Gustav T. Fechner of Leipzig reported his study in psychology on "The Measurement of Aesthetic Feeling," which might be paraphrased as the quintessence of art appreciation.

If a musical sound was played in a thoroughly quiet room, the sense of feeling and hearing did not progress with the loudness. As the loudness of the tone was doubled, the senses recorded about a third more intensity, but when it was diminished to a half, the senses indicated only a third less sound, and when diminished to one-quarter, the intensity of the impression was about four tenths.

By reducing the intensity of the sound more and more, he found that each person had a threshold of minimum sensitivity. The personal variations were great. Is it common observation that we have

varying degrees of deafness, but he began to measure it and thus created a new field of knowledge, psychometry.

Similarly with light and color, all persons have the same relative sensitivity to changes of intensity, but each has a starting point or threshold. Some are color-blind and some are blind below a characteristic personal degree of blindness.

The rule which he used to summarize his experiments is, that to produce the same increment of sensation, the stimulus has to be in geometric proportion. In diminishing the stimulus, the sensitivity reaches remarkably low amounts of stimulus, also in geometric diminishing proportion. Mathematically stated, the change in sensibility is proportional to the logarithm of the stimulus.

Commonly, in novels, for instance, we read that detectives sense a presence on entering a still and darkened room. This might be the pet cat, and the stimulus would be the heat radiated by its body. Our senses are alert to minute stimuli.

This rule of sensitivity to minute stimuli may be used to explain the results of extra-sensory perception or telepathy and to point a new way to its understanding.

The brain is now known to generate electrical waves or surges. Such electric surges are always accompanied by electromagnetic effects, very minute but real, similar to radio communication. If then the threshold sensitivity of some persons, even a rare minority, to such waves exists, then there is a possibility that telepathy, "feeling at a distance" might be a fact. In this transmission of cerebral radiation, both the transmitter and the receiver must be considered. A general stimulus and reception between persons who have been thinking along the same lines will cause a continuance of those thoughts. If the persons have been separated and thinking along different lines, the stimulus will activate the lines of thought already in progress. Detailed, point by point stimulus and response is hardly to be expected.

This problem of telepathy is difficult to prove as we have no means for testing it objectively. The usual methods are inadequate, probably because of the extreme attenuation of the stimuli. We may expect a development and refinement of methods ultimately to prove it.

Such observations based on knowledge

already available makes it unnecessary to invoke a mysterious force. The brain and nervous system are so little understood that the unknown naturally appears transcendental.

—Dr. John A. Steffens, F.A.I.C.

On Economic Philosophy

To the Editor:

The Something-for-Nothing boys are at it again! This is an election year so once again our ears are blasted by those who wish to control our lives.

As usual, some candidates appeal to minorities promising each and everyone of them bigger and better handouts. They hint that the Fat Cats (the majority including you and me) will be forced to pay the bill. Their economic philosophy seems to be that if they can increase the income of enough minorities, they will increase the income of the majority.

They fail to realize where the money will come from. It will come largely from three main sources—increased taxes, increased prices, and greater inflation.

It is this uneconomic principle of helping us today and wrecking us tomorrow that is most disastrous to the nation. Their philosophy apparently is "Let's be happy today, tomorrow may never come."

For many years and until four years ago, the Administration operated on the simple notion of taking from the "haves" and giving to the "have-nots". As the years went by, this operation developed to a point where "they took from the creator and the producer and gave to the unfortunate, the incompetent, the parasite, and the drone."

We, who are members of The American Institute of Chemists—are we unfortunate, incompetents, parasites or drones; did we ever receive handouts from the Federal Government; and do we wish higher taxes, higher prices, and more inflation? Perhaps we are, we did, and we do, but I doubt it!

—Dr. D. B. Keyes, F.A.I.C.
New York, N.Y.

Chemistry and the Sixth Grade

To the Editor:

Everyone probably knows about the shortage of mathematicians, scientists and

engineers in the United States. It has been heralded by radio and press, and the Government from the President down. Colleges and universities, scientific organizations and industries are looking about for a solution to the problem. But will it help to start with inadequate training in the elementary school?

To illustrate: A teacher attending summer school and taking her first course in chemistry came to a graduate chemist for tutoring. She had taught in one of the lower grades in the public schools for a dozen years but was anticipating an advancement to a higher grade. "We have to teach chemistry in the sixth grade now," she said, "We have to teach them to make soap!"

Tutor and teacher sat down to discuss the difficulties she was having in chemistry. But her troubles did not begin there. She had explained that she was "poor in mathematics," but the tutor was unprepared for the actual facts. The teacher did not understand the fundamentals of arithmetic as taught in the fourth grade of the public schools; she knew nothing about the use of decimals in arithmetic; had never heard of the Metric system, and could not solve simple sums in multiplication and division. It is possible for one to graduate from some colleges without any science or mathematics, but how this woman finished the eighth grade and got through high school is a mystery.

Chemistry was meaningless to her. She was writing equations by memory and did not have the least idea what they stood for; she did not know about valence and atomic weight and did not know where decimal points should be placed. When it was explained, she said; "All I know is that you go one point to the left or one point to the right in multiplying or dividing, but I don't know which."

The tutor went over the experiments as described in the laboratory manual but the woman had grasped very little in the laboratory or class. She was unable to answer the questions in the manual or solve the simple problems in arithmetic. Since she was a housewife and mother, as well as a teacher, the tutor illustrated the experiments by things with which she should be familiar, such as carbon dioxide gas in pancake batter, fume-fading of her blouse, and other chemical phenomena

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in the home. But the teacher was hopelessly lost.

There did not seem to be a single familiar place in her background where a start could be made in tutoring for a chemistry examination two hours away. The teacher arose and said, "You don't know any more about chemistry than my professor knows, and he doesn't know anything! I hate chemistry!" She walked out.

Is this teaching of chemistry in the sixth grade a result of the agitation about the shortage of scientists in the United States? If so, it seems most important to get teachers who are well prepared in the subject they are expected to teach and who are mature enough to teach them. Otherwise, the entire experiment will be a failure and a waste of school money. But what is worse, it may alienate intelligent students from the field of science.

—Ora Blanche Burright, F.A.I.C.
Denton, Texas

Error Corrected

To the Secretary:

I would like to point out an error in Vol. 33, No. 9, page 374, of THE CHEMIST. In the list of new members elected to the AIC, I am listed as "chief research chemist" of The Dow Chemical Co., Framingham, Mass. This listing is in error. I am currently a *research chemist* for this company.

The error undoubtedly crept in since I was chief research chemist with the Bersworth Chemical Company, prior to its acquisition by The Dow Chemical Co. I would appreciate your correcting this error.

—Dr. Albert E. Frost, F.A.I.C.

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National Council Representative, Marcus Sittenfield

Symposium on Scientific Manpower

The December 6th meeting of the Pennsylvania Chapter will be a provocative symposium that will present a most unusual approach to the much discussed problem of Scientific Manpower. This

meeting has been organized through the cooperative effort of the Pennsylvania AIC Chapter, and the local chapters of the American Chemical Society, the American Institute of Chemical Engineers, and the Electrochemical Society.

The approach of this symposium will be to discuss the importance and the meaning for the need of scientists from the viewpoint of the scientist as well as the nation. Supply and Demand for Scientists will be handled by Dr. Christopher L. Wilson. In his discussion, Dr. Wilson will show how the supply and demand has been affected by salaries, present value of the dollar, and the number of years that the scientist has been practicing.

The effective utilization of scientific personnel by the nation will be the topic considered by Dr. Eli Ginzberg, professor of economics at Columbia University and director of research of the National Manpower Council.

The subject of education of future scientists in our high schools and universities will be most ably discussed by Dr. Harry C. Kelly, who is assistant director of the National Science Foundation.

The keynoter for the symposium, as well as the moderator, will be Dr. Norman A. Shepard, formerly chemical director of American Cyanamid Company and at one time assistant professor of chemistry at Yale University.

We are sure that this meeting will be one that cannot be missed by the scientist, the educator, and the industrial employer. (For details see "Will You Come" column.)

New York Chapter

Chairman, Dr. Murray Berdick

Chairman-elect, Dr. Ernest I. Becker

Secretary, Miss June Larsen

Sugar Research Foundation, 52 Wall St., New York 5, N. Y.

Treasurer, Shepherd Stigman

National Council Representative, Richard L. Moore.

"The Chemist, The Industry, and National Defense"

Simon Askin, president of Heyden Chemical Company, will speak on "The Chemist, The Industry, and National Defense," before a joint meeting of the New York Chapter and the Chemical Industry Association, on November 8th, at the Belmont-Plaza Hotel, New York, N.Y.

In his talk, which will interest both chemists and marketing people working with government agencies, Mr. Askin will discuss the contribution of the chemist to American war potential. Examples will be presented of new applications of chemicals in the development of weapons for modern-day warfare. He will elaborate on the factors involved in producing a favorable climate for efficient mobilization, with primary emphasis on the problems involved in communication of ideas.

The address will point up what the chemist, as a responsible citizen and as a factor in a growing industry, can do to participate in a vigilant program of national defense.

Mr. Askin's long association with both chemical industry and the national defense program qualifies him to discuss the relationship between industry and defense. A graduate of Lehigh University, he has been with Heyden Chemical since 1943, as president since 1952. He is chairman of the Board of American Plastics Corp., Nuodex International, Inc., and treasurer and director of St. Maurice Chemicals, Ltd., of Canada. He is also a director and officer in affiliated companies in Australia, Canada, England, Italy, and Mexico. (For details of the meeting, see the "Will You Come" column.)

Washington Chapter

President, Wesley R. Koster

Vice President, John G. Fletcher

Secretary, Frederick S. Magnusson,

Bureau of Foreign Commerce, U. S. Dept. of Commerce, Washington 25, D.C.

Treasurer, Albert F. Parks

National Council Representative, Wesley R. Koster

Washington Chapter Newsletter

The Washington Chapter is incorporating a "News and Comments" Section into its Chapter meeting announcements. The introduction to this new feature, first issued in October, states:

"Since so many of this Chapter's membership are located out of town and are unable to attend regular meetings, perhaps some kind of newsletter such as this might be used to place before the membership the current problems and activities of the chapter. Many of you in the outlying areas have ideas or views which are of great interest to those who can attend the Washington meetings. We would like to have the benefit of your thoughts via notes or letters, directed to the secretary or the president, if you so desire. This applies, of course, to any of the local members who have similar inclinations and reasons for writing in."

AIC ACTIVITIES

Then follows a summary of news about the current AIC activities and the projects of the Washington Chapter. It concludes, "Your Chapter's officers will welcome your suggestions, comments, and/or criticisms at any time on any subject, and will be duly disappointed if the volume of them is not substantial."

Will You Come

Oct. 5, 1956. Chicago Chapter. Dinner Meeting. Furniture Club, Chicago, Ill. Presentation of the Honor Scroll to Dr. Lloyd A. Hall, F.A.I.C., technical director, The Griffith Laboratories, Inc., Chicago.

Oct. 9, 1956. Washington Chapter. Luncheon. O'Donnell's Sea Grill, Washington, D.C. Speaker, Dr. William E. Chace, director of education of the Manufacturing Chemists' Association. Subject: The new 5-year Education Program of MCA.

Oct. 10, 1956. Dinner Meeting. National AIC Council and Board of Directors. The Chemists' Club, 52 East 41st St., New York 17, N. Y.

Oct. 23, 1956. New Jersey AIC Chapter. Military Park Hotel, Newark, N.J. Council Meeting 5:30 p.m. Dinner 6:30 p.m. Meeting 8:00 p.m. Presiding, Dr. Max Bender, Chapter chairman. Speaker, John H. Nair, AIC president, "Attaining Professional Recognition."

Oct. 30, 1956. Western Chapter. Joint meeting with Institute of Aeronautical Sciences, 7660 Beverly Blvd., Los Angeles, Calif. Speaker: Dr. C. L. Critchfield, director of scientific research at Convair. Subject, "Controlled Thermo Nuclear Reactions."

Oct. 31, 1956. New England Chapter. MIT Faculty Club. Dinner 6 p.m. Presentation of Honorary AIC Membership to Dr. W. George Parks, head Department of Chemistry, University of Rhode Island, Kingston, R.I., and director of the Gordon Research Conferences. Speaker for recipient; Lawrence H. Flett. Presentation of Honorary Membership, AIC President John H. Nair. For Reservations: George B. Walker, Jr., Arthur D. Little Inc., 30 Memorial Drive, Cambridge, Mass.

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Nov. 1956. (Date to be announced). New Jersey Chapter, Dinner and meeting. Subject: Education. For information, Dr. F. A. Lowenheim, Program Chairman, P. O. Box 471, Rahway, N.J.

Nov. 8 1956. New York Chapter. Joint meeting with Chemical Industry Association. Subject, "The Chemist, the Industry, and National Defense." Speaker, Simon Askin, president, Heyden Chemical Co. Place of meeting: Moderne Room, Belmont Plaza Hotel, New York, N.Y. Mixer, 6 p.m. Dinner 7. Reservations (\$6.50): F.A. De Angelis, Foster D. Snell, Inc., 29 W. 15th St., New York 11, N.Y.

Dec. 6, 1956. Pennsylvania Chapter jointly with the Philadelphia sections of the American Chemical Society, The American Institute of Chemical Engineers, and the Electrochemical Society. Meeting at the University of Pennsylvania Museum, Philadelphia, Pa. at 2 p.m. for afternoon symposium on "Scientific Manpower—its Meaning to the Scientist and the Nation." Speakers: Dr. Christopher Wilson, vice president, Hudson Foam Latex Corp.; Dr. Eli Ginzberg, professor of economics, Columbia University; Dr. Harry C. Kelly, assistant director, National Science Foundation. Moderator: Dr. Norman A. Shepard, former chemical director, American Cyanamid Co. Symposium followed at 6 p.m. by cocktail hour. Dinner, 7 p.m. Speaker: A prominent member of the Department of Defense will discuss the problems facing the scientist in the future.

Dec. 12, 1956. National AIC Council and Board of Directors. Dinner Meeting. The Chemists' Club, 52 East 41st St., New York 17, N. Y.

Jan. 10, 1957. Pennsylvania Chapter. Penn Sherwood Hotel, Philadelphia, Pa. Reception, 6:30 p.m. Dinner, 7:30 p.m. Annual Honor Scroll Award dinner. Dr. Charles L. Thomas, F.R.I.C., outstanding chemical engineer, will be honored for his outstanding contributions to the profession of chemistry. For information, Dr. A. M. Immediata, International Resistance Corp., 401 No. Broad St., Philadelphia, Pa.

Feb. 8, 1957. New York Chapter. Joint meeting with American Chemical Society. Program to be announced.

Feb. 13, 1957. National AIC Council and Board of Directors, Dinner meeting. The Chemists' Club, 52 East 41st St., New York 17, N.Y.

Feb. 26, 1957. New Jersey Chapter. Plant Trip. Visit to RCA Research Laboratories, Princeton, N.J. 2:00 p.m. Registration required prior to plant visit.

Mar. 7, 1957. New York Chapter. Presentation of Honorary AIC Membership to Lawrence H. Flett, formerly AIC president. Details to be announced.

April, 1957 (date to be announced). New York Chapter. Young Chemists' Meeting. Program to be announced.

May 1957. (Date to be announced) New Jersey Chapter. Military Park Hotel, Newark, N. J. Cocktails 6 p.m., dinner 7:00 p.m. Annual awards, program and speaker. Student medals will be presented to outstanding students of chemistry in the New Jersey Chapter area.

May 21, 1957. National AIC Council and Board of Directors. Dinner Meeting. Sheraton-Mayflower Hotel, Akron, Ohio.

May 22-24, 1957. Thirty-fourth Annual Meeting. THE AMERICAN INSTITUTE OF CHEMISTS. Sheraton-Mayflower Hotel, Akron, Ohio.

June 6, 1957. New York Chapter. Honor Scroll Award meeting. Program to be announced.

April 10-11, 1958. Thirty-fifth Annual Meeting. THE AMERICAN INSTITUTE OF CHEMISTS. Los Angeles, California. Host: The Western AIC Chapter.

May 14-15, 1959. Thirty-sixth Annual Meeting. THE AMERICAN INSTITUTE OF CHEMISTS, New York, N. Y. Host: The New York AIC Chapter.

Opportunities

Doris Eager, M.A.I.C.

AIC members who are seeking positions may place notices in this column without charge.

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Jr. Technologist (2). B.S. in Ch.E. Basic eng'g work, development activities, pilot plant studies, preparation technical reports, etc. or research in chem. eng'g phase of development & application of processes to new or improved food products. Under 30. Salary \$4,200-5,400.

Jr. Technologist. B.S. in Chem., Food Tech., Agri. Chem. for applied research. Age to 30. Salary \$4,200-4,800.

Technical Librarian. Literature chemist to conduct literature searches for related research.

For the above positions apply to Employment Office, General Foods Corp., Central Laboratories, 1125 Hudson St., Hoboken, N.J.

OPPORTUNITIES

Research Chemist: For West Coast opening in industrial chemicals, detergents, and cleaning compounds. B.S. degree, preferably M.S. Up to 5 years research & application experience in surface chemistry, preferably in the metal cleaning and metal finishing field. Age 28 to 35. \$7 to \$8500, plus benefits. Box 109, THE CHEMIST.

Chemical Salesman. B.S. in Chemistry. Field of preservatives for food industry. Age 27-35. Salary \$7-10,000. Box 101, THE CHEMIST.

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Examination for Chemist. Positions in Communicable Disease Center, in Atlanta, Ga. and other locations throughout country, for those with appropriate education and experience. Entrance salaries range from \$5,440 to 11,610 a year. Apply to Board of U.S. Civil Service Examiners, Communicable Disease Center, 50 Seventh St. N.E., Atlanta 23, Georgia.

For Your Library

A Short Textbook of Colloid Chemistry

By B. Jirgensons and M. E. Straumanis.
John Wiley & Sons, Inc., 1955. 420 pp.
\$8.00.

This completely revised version of the authors' *Kurzes Lehrbuch der Kolloidchemie*, which was published by Bergmann & Springer in 1949, is intended primarily for students.

In the first, or introductory portion of the book, the fundamental terms, classifications, and elementary laboratory methods used for colloids are briefly reviewed. Readers looking for general information on colloids will find this section adequate for "a speaking acquaintance" with these compounds.

The second section is more detailed and thorough in its presentation of various types of dispersion. Emphasis has been on the dependence of colloid systems on the sizes and shapes of their constituent particles and macromolecules, and stress has been placed on basic facts and relationships, particularly in reference to practical problems. Within its small compass, this volume contains a great deal of useful and clearly presented information.

—Dr. Frederick A. Hessel, F.A.I.C.

Chemical Market Research In Practice

Edited by Richard E. Chaddock. Reinhold Publishing Corp. 1956. 5" x 7 1/2".
196 pp. \$3.00.

This valuable little book contains the substance of two series of lectures by members of the Chemical Market Research Association given at Case Institute of Technology in Wilmington, Del., through the cooperation of the University of Delaware. As here presented, twenty-two leaders in chemical market research provide in sixteen chapters an important survey of objectives, techniques and illustrative case histories in their field. The whole has been capably edited and thus it constitutes a handbook of the subject that is both highly useful and readily usable for anyone interested. That means a growing number of chemists as well as others in and connected with chemical industry. For today the necessity for conserving and utilizing skill fully requires every worker in chemistry to examine his developments early and often by the vital measure of utility and thus marketability. Whatever your specific duties, you will find this condensed and highly readable survey of methods of predetermining probable size and scope of markets for chemical products to be an important addition to your personal library.

—D. H. Killeffer, F.A.I.C.

Valency and Molecular Structure

By E. Cartmell and G. W. A. Fowles.
Academic Press. 256 pp. 6" x 9" (8vo).
\$5.80.

Chemists who desire information on the relation between present knowledge in quantum mechanics and physical chemistry will most probably find this book worth the investment. While its use as a text may be limited because of the brevity of treatment, this is a decided advantage to the chemist seeking comprehensive but not too detailed information. For those who have graduated since the atom bomb, it may be instructive; for those whose schooling was before that time, it will prove well worth adding to a library. The book is most clearly written and the illustrations are clear and appropriate. While written for British honours students, it is singularly free of the British idiom. One remembers that "structural chemistry" has its equivalent in our "physical chemistry."

Each chapter has a bibliography which permits expansion into greater detail. There is an author index as well as a subject index, both well done.

The treatment is not mathematically profound, adequate for information but not requiring too much of the reader. The subject is well and instructively covered. The aims of the authors as expressed in the preface are generously achieved and the use of this work as an introduction to the quantum theory of valence will prove satisfying.

—John B. Lewis, F.A.I.C.

Atomic Energy Research At Harwell

By K. E. B. Jay, principal scientific officer at Harwell since 1947. *Philosophical Library.* 144 pp. 5¾" x 8¾". \$4.75.

This book from the United Kingdom Atomic Energy Authority carries forward the story of the Atomic Energy Research Establishment to August 1954. It describes work done at Harwell, the Capenhurst diffusion plant, the Amersham plant, Windscale plutonium plant, together with research developments in instruments, controls, and observations.

—Dr. John A. Steffens, F.A.I.C.

Chemical Books Abroad Dr. Rudolph Seiden, F.A.I.C.

Birkhaeuser Verlag, Basel: 14th International Congress of Pure and Applied Chemistry; 1955, 287 pp.; SFr. 32.—14 lectures held at the Zurich Congress of July 1955 are reprinted in this volume—they deal with such problems as oxytocin, photooxidation, tautometry, steric hindrance, dien synthesis, conformational analysis, carbonium ion behavior, strychnine synthesis, photographic sensitizing dyes, and Al in organic chemistry. Among the lecturers were scientists from America, France, Russia, England, Germany, Sweden, Italy, and India.

Springer-Verlag, Berlin W 35: *Faerherei und textilchemische Untersuchungen*, by A. Agster; 9th ed., 426 pp. (70 ill.); DM 36.—A well-organized book on laboratory methods for the chemical and coloristic investigation of raw materials, auxiliary agents, and end products of the textile finishing industry, such as water, acids, salts, alkalies, fats and oils, and wetting agents, thickeners, enzymes, sizing emulsions, dressings, dyes and their fastness and resistance values, fibers and foreign substances on them, etc. Paper chromatography and other newer laboratory techniques have been included in this most up-to-date work for textile and dyestuff chemists which was originally written by Prof. Hermann and for the first time published in 1897.

Hans Huber Verlag, Bern (International Medical Book Corporation, New York): *Seifen und Waschmittel*, 2nd ed., 139 pp.; SFr. 12.—Edited by the Swiss Society for analytical and applied chemistry, this brings definitions of soaps, detergents, and related products; descriptions of quantitative and qualitative assay methods; tests for determining the practical value of these agents; tables and an 11-page index.

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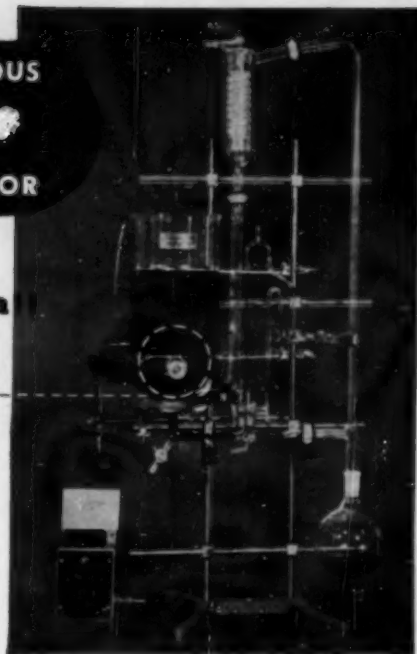
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New Position: For Charles V. Collier, F.A.I.C., who is now senior research chemist in the Research and Development group of American Potash & Chemical Corp., 3100 East 26th St., Los Angeles 23, Calif.

Awarded: The 25-year service award of American Cyanamid Company to Lawrence E. Ross, F.A.I.C., chemist in the Development Group at the Piney River, Virginia, plant of the company.

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New Position: For Dr. Fritz Rosenthal, F.A.I.C., who is now with Knowlton Brothers, Inc., Watertown, N.Y. He was formerly with Armour Research Foundation, Chicago, Ill.

Appointed: Dr. William Seaman, F.A.I.C., as research fellow in the Research Division of American Cyanamid Company, at Bound Brook, N. J. Dr. Seaman has been an analytical chemist and a member of Cyanamid's Bound Brook Laboratories for more than twenty years. He is co-author of "Modern Instruments in Chemical Analyses."

Photographic Salon: To be held at the National Chemical Exposition in the Public Auditorium, Cleveland, Ohio, November 27-30, 1956. Information and entry blanks may be obtained from the National Chemical Exposition, 86 East Randolph St., Chicago 1, Ill.

Retired: Dr. John W. McBurney, F.A.I.C., from the staff of the National Bureau of Standards this summer after thirty years of service. He first joined the Bureau staff in 1926 as research associate for the Common Brick Manufacturers Association. His address is 1543 North Falkland Lane, Silver Spring, Maryland.

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Appointed: Dr. Lloyd K. Riggs, F.A.I.C., as senior scientist on the staff of Evans Research & Development Corp., 250 E. 43rd St., New York 17, N.Y. For many years Dr. Riggs has been director of research of the Kraft Foods Company.

Elected: Harry B. McClure, Hon. AIC, as vice president of Union Carbide and Carbon Corporation. He was also appointed a member of the Appropriations Committee. He was formerly president of Carbide and Carbon Chemicals Company, a division of Union Carbide.

Assigned: Robert F. Connelly, M.A.I.C., as West Coast field salesman for the Organic Chemical Sales Department of Emery Industries, Inc. He was formerly with Bray Oil Company.

Honored: Rudolph A. Schatzel, F.A.I.C., vice president, Rome Cable Corporation, Rome, N.Y., who received the honorary Doctor of Science degree from Union College this June.



Appointed: Dr. Chester White, F.A.I.C., as supervisor of the Rochester, N.Y., laboratories (formerly the Genesee Research Corp.) of the Industrial Chemicals Division of Olin Mathieson Chemical Corporation.

Convention Calendar: For the American Oil Chemists' Society:

1957 Spring meeting, New Orleans, Roosevelt Hotel, April 30-May 2.

1957 Fall meeting, Cincinnati, Sept. 30-Oct. 2.

1958 Spring meeting, Memphis, April 21-23.

1958 Fall meeting, Chicago, Oct. 20-22.

1959 Spring meeting, New Orleans (50th anniversary).

1959 Fall meeting, Los Angeles (tentative).

Elected: As president of the Industrial Research Institute, Inc., Dr. Robert D. Coghill, F.A.I.C., who is director of research of Abbott Laboratories, North Chicago, Ill. Dr. Thomas H. Vaughn, M.A.I.C., of the Colgate-Palmolive Co., 300 Park Ave., New York, N.Y. was named president-elect, vice president, and director of the Industrial Research Institute.

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—(Author unknown)

It requires a very unusual mind to undertake the analysis of the obvious.

—A. N. Whitehead



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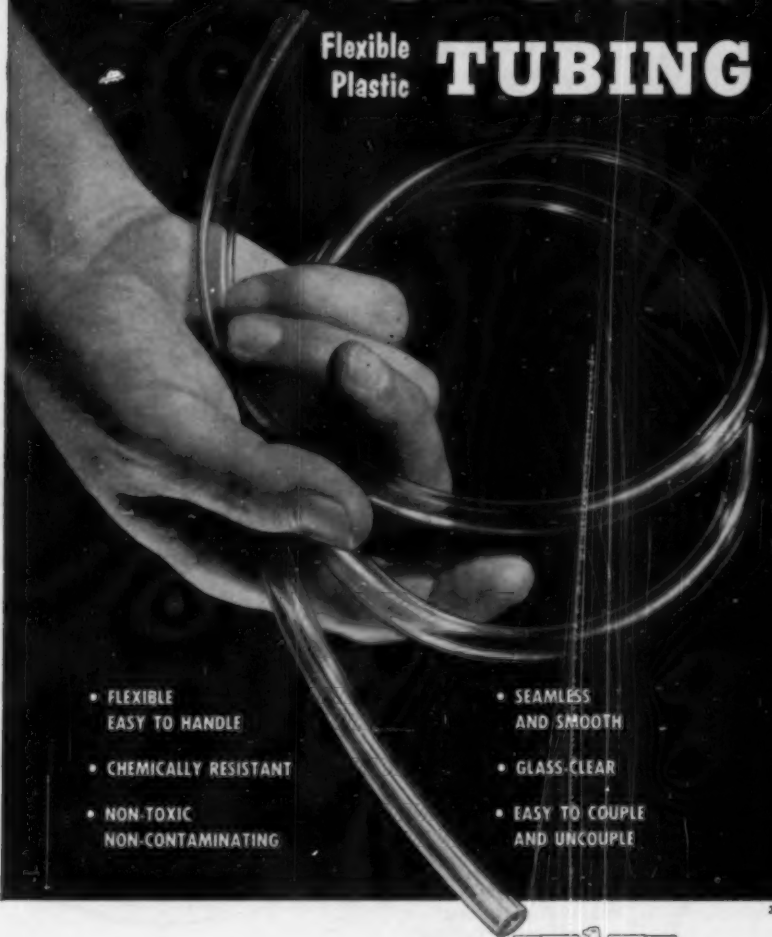
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